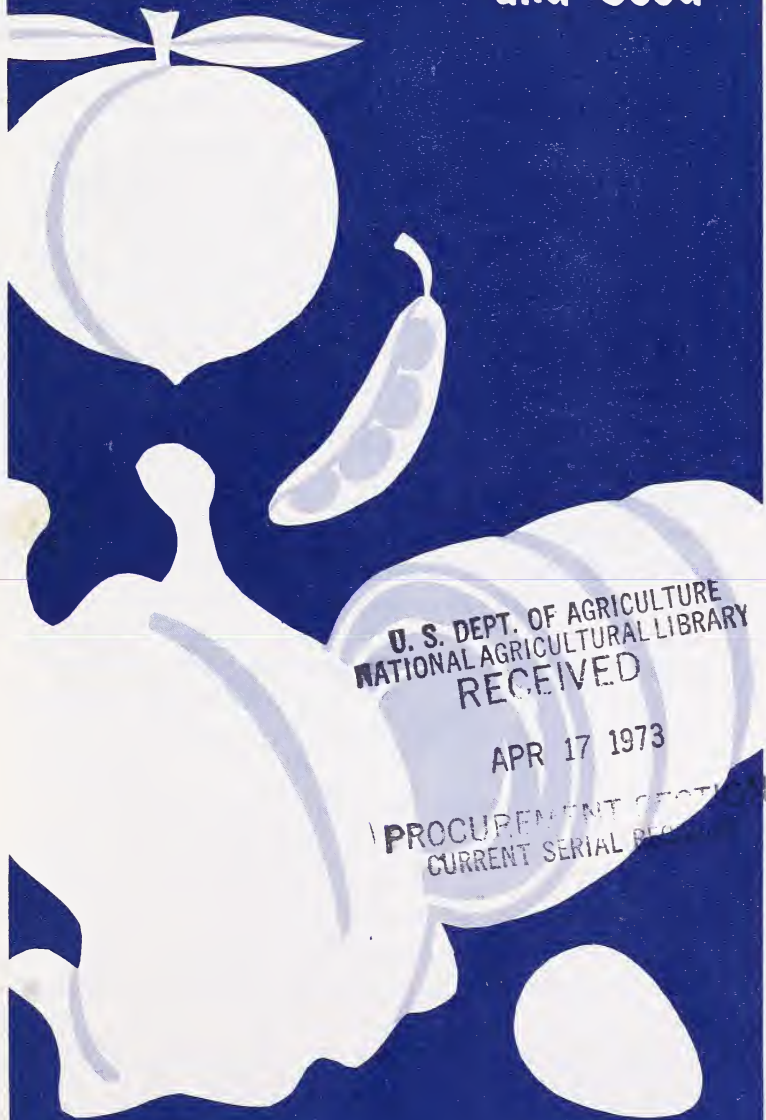


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USDA GRADE STANDARDS FOR FOOD-- How They are Developed and Used



U.S. DEPARTMENT OF AGRICULTURE

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USDA GRADE STANDARDS FOR FOOD—HOW THEY ARE DEVELOPED AND USED

U.S. Department of Agriculture grade standards for food, along with standards for other agricultural products, have been developed to identify the degrees of quality in the various products, and thereby aid in establishing their usability or value.

The first U.S. grade standards established by the U.S. Department of Agriculture for a food product were for potatoes in 1917. Since that time, grade standards have been established for many other food products. The dates in parenthesis indicate the date of first establishment of official U.S. grade standards for the commodity or commodity group:

Fresh fruits, vegetables, and nuts (1917); butter, Cheddar cheese, nonfat dry milk, and certain other dairy products (1919); rice, dry beans, peas and related products (1924); eggs (1925); poultry (1930); beef, veal and calf, and lamb and mutton carcasses (1926); canned, frozen, and dried fruits and vegetables, and other related products such as preserves (1928).

U.S. grade standards are also available for the various grains, but not for the food products, such as flour or cereals, into which grain is processed.

A complete list of the food products for which U.S. grade standards are in effect is in Agriculture Handbook No. 341, USDA Standards for Food and Farm Products.

USDA provides grading services—official certification of the grade of products—for each com-

Note: Single copies of references mentioned in this publication may be obtained from the Information Division, Agricultural Marketing Service, USDA, Washington, D.C. 20250.

modity group.¹ Grading is voluntary, except in certain instances, and is provided on a fee-for-service basis.

Early Federal work on grade standardization of food products was done under Congressional authorization for studies on the marketing of farm products (1913) and the U.S. Grain Standards Act (1916). Standardization and voluntary grading and inspection services are now conducted by the authority of the Agricultural Marketing Act of 1946 and the U.S. Grain Standards Act of 1968.

Purpose of the standards

Although grade standards for each commodity group were developed independently of each other, the original purpose of the standards was basically the same: To aid in the marketing of farm products by providing a common language for wholesale trading and a means of measuring value or a basis for establishing prices. State and local standards and trade terms had existed for some products for some time before establishment of official U.S. grade standards. The need for standards which would be applicable nationwide, brought on especially by the growth of long-distance trading and inauguration of the Federal-State Market News Service, gave impetus to development of the U.S. grade standards. The purpose of the market news service was to aid buyers and sellers by providing factual, unbiased reports on prices and supplies at production points and wholesale markets. Prices quoted by the market news service in the different markets

¹ Some services, such as those for fruits and vegetables and rice, dry beans, and peas, have historically been called "inspection services." Therefore, unless otherwise stated, "inspection" as used in this publication refers to checking the quality of a product and is used interchangeably with "grading."

could only be meaningful if they were based on products of comparable quality.

The express purpose of the meat carcass standards was to reflect back to producers, primarily through the prices obtained for different grades, the qualities most desired by consumers.

Other early purposes for developing grade standards were to help establish loan values for products in storage and to assure that products purchased by the Government (for example, by the military services) were of acceptable quality.

These original purposes are still served by the grade standards, but the standards have found many other uses. Private procurement agencies—restaurants, shipping lines, and other feeding establishments—as well as Federal and State government agencies, use the grade standards as specifications in purchasing foods. Contracts between packers or processors and producers are often based on the grade of the product as delivered to the processing plant, and processors use the standards as aids in quality control. Trading of food products on the futures market is also often based on official grades.

In recent years, consumers have come to depend on the USDA grades in buying many foods.

Criteria for grade standards

The U.S. grade standards provide a means of classifying the entire range of quality of a product. Because some products are naturally more variable than others, it is necessary to have more grades for some products than for others. Quality in general refers to the usefulness, desirability, and value of a product—its marketability—but the precise definition of quality depends on the commodity. The standards define the quality requirements of each grade of a product: Criteria for grade standards for the various commodity groups are as follows.

Beef, veal and calf, lamb and mutton. Quality grades predict the “eating quality” of meat. Eating quality is indicated by the color, firmness, texture, and marbling of the meat in relation to its maturity or age. The range of quality in beef requires eight grades; in veal and calf, six; in lamb and mutton, five. The three top grades for all are U.S. Prime, U.S. Choice, and U.S. Good.

In addition to quality grades for beef and lamb, there are also U.S. yield grades, which are used to indicate the differences in yield of trimmed retail cuts from carcasses. The yield grades are described in Marketing Bulletin No. 45, USDA Yield Grades for Beef, and Marketing Bulletin No. 52, USDA Yield Grades for Lamb.

Poultry. Standards measure “table quality” in terms of the proportion of edible meat in relation to bone, the “finish” of the bird, and freedom from defects such as cuts, tears, and bruises. Tenderness is not a grade factor, as it relates chiefly to the age difference between young and older birds and is indicated separately in labeling (for example, “fryers”). Turkey, chicken, duck, goose, guinea, and squab may be graded U.S. Grade A, B, or C.

Eggs. Standards provide for quality grades and for weight classes (size). Standards for quality relate to the appearance of the egg and its suitability to various methods of cooking. They define such factors as thickness of the albumen, condition of the yolk, and condition of the shell. Standards for size are based on the weight of a dozen eggs—a 3-ounce weight difference is provided between sizes. Eggs are graded U.S. Grade AA or Fresh Fancy, Grade A, and Grade B. Sizes are U.S. Jumbo, Extra Large, Large, Medium, Small, and Peewee. One dozen Large eggs weighs at least 24 ounces.

Butter and Cheddar cheese. Standards define levels of eating quality, based on flavor, texture, and body. Age or degree of cure is also a factor

in Cheddar cheese. U.S. grade names are U.S. Grades AA, A, and B.

Instant nonfat dry milk. Quality factors are flavor, color uniformity, bacterial count, dispersibility, solubility index, and moisture and milkfat content. The U.S. grade name is U.S. Extra.

Fresh and processed fruits and vegetables. Standards for both fresh and processed fruits and vegetables vary with the individual product. They usually define such factors as color, shape, size, maturity, and number and degree of defects. For some products, especially those that are processed, flavor and tenderness are also rated. The typical range of grades for fresh fruits and vegetables includes U.S. Fancy, U.S. No. 1, and U.S. No. 2. U.S. No. 1 is the chief trading grade for most products. Grade names for processed fruits, vegetables, and related products are U.S. Grades A, B, and C.

Rice, dry beans, and peas. Standards measure uniformity of shape, size, and color, moisture content, damage, and foreign material. Moisture measurement is significant because it determines the amount of dry matter of the commodity, and more important, its storability. Grades range from U.S. No. 1 to U.S. No. 6 for rice; U.S. No. 1 to U.S. No. 3 for dry peas; and U.S. No. 1 to U.S. No. 3 and U.S. Substandard for dry beans, except that the highest grade for dry lima beans is U.S. Extra No. 1. In addition, the lowest grade for each commodity is U.S. Sample Grade.

Inspection and grading services

At the same time as development of U.S. grade standards, and in some instances preceding them, USDA began to establish an official system of inspection and grading. Originally limited in scope, it has become nationwide and now is available in

practically all major production areas and major destination markets in all States.

Anyone who has a financial interest in a product—for example, a packer, processor, distributor, wholesale buyer, or retailer—may request official grading. A fee is charged for the service. Users of the grading service receive official certificates describing the quality of the product at the time it is graded. These certificates are accepted as legal evidence in court.

Products may be graded in the producing area, at assembly, packaging, milling, or processing plants; at terminal markets, in a railcar or a receiver's warehouse or store.

Various types of inspection or grading and related services are available; for example, in-plant or continuous inspection during processing; inspection of specific lots of a product in a plant or warehouse; inspection of a sample of the product; and inspection of raw products to be used in processing. See Marketing Bulletin No. 48, Dairy Inspection and Grading Services; PA-675, Food Acceptance Service; AMS-520, Official Grade Standards and Inspection for Fresh Fruits and Vegetables; Marketing Bulletin No. 47, USDA's Acceptance Service for Meat and Meat Products; Marketing Bulletin No. 46, USDA's Acceptance Service for Poultry and Eggs; AMS-366, Dairy Products Inspection Service—Aid for Quality Buyers.

Fees charged for inspection or grading services are based on the cost to the government of providing the service, as required by law.

Grade labeling of consumer packages

Although the grade standards were originally developed to aid in wholesale trading, through the years various packers and processors began to use the U.S. grade name on containers of food in

the form it reached the consumer. Packages of butter, for example, were labeled by grade in 1924.

The USDA grades have been used on retail cuts of beef, veal, and lamb since the standards for these meats were established. The grade mark is applied to the carcass or to wholesale cuts in a long, ribbon-like imprint, so the grade stamp carries through on most cuts.

About 25 years ago, grade standards for shell eggs, chickens, and turkeys were developed specifically to be used in grading these products for retail sale. The grade standards for eggs, for example, are applied to packages of one dozen eggs, rather than the cases of 30-dozen eggs which are the wholesale trading unit.

Grade labeling of fresh fruits and vegetables dates from about 1930, when shippers began to pack these products in packages for consumers. Up to that time, the grade standards were applied only to the wholesale trading units, such as 100-pound bags of potatoes. Special consumer grades were developed for some products, but they are seldom used. The wholesale grade standards for many fresh fruits and vegetables have therefore been revised in recent years to provide for grading products in consumer packages.

Because canned and frozen fruits and vegetables are packed in retail containers at the time of processing, most of the grade standards for these products are designed to classify the quality of the retail product. Grade labeling of canned and frozen fruits and vegetables began in the late 1930's.

Rice, dry beans, peas, and related products are officially graded at the milling plant in wholesale lots, and the U.S. grades are seldom used on consumer packages.

Grade labeling is not required by Federal law, even though the product has been officially graded or inspected. For most commodities, if an official U.S. grade name or grade shield is used, however, the product must have been officially graded or

inspected. The only exceptions are for fresh fruits, vegetables, and a few other products, where the practice of grade labeling without official inspection has existed through the years. Some State and local laws and industry marketing programs do require grade labeling of certain foods.

Foods consumers are most likely to find carrying the U.S. grade name are beef, lamb, chicken, turkey, butter, and eggs. Some canned and frozen fruits and vegetables, and a few fresh fruits and vegetables, when they are sold in packages rather than in bulk, are also labeled by U.S. grades.

Development of grade standards

Three basic principles are followed in developing grade standards. First of all, there must be a need for the standards. Second, because use of the standards and grading is voluntary, there must be interest and support from the industry. And third, the standards must be practical to use.

Requests for standards may come from trade or consumer groups, State Departments of Agriculture, or others. USDA standardization specialists, who develop the standards, may initiate standards to more accurately reflect the type of product being produced. New standards are developed as new products come on the market or increase in consumer use. Recent examples are the grade standards for boneless poultry breasts and thighs and canned leafy greens.

The first step in developing standards is study of the product to determine the quality factors involved and the range of quality produced. Standardization specialists investigate cultural or production practices in major producing areas; varieties or types; harvesting, slaughtering, packing, and processing techniques; and consumer buying practices. They may call upon statisticians for aid in drawing up plans for taking samples

of the product in various parts of the country; criteria for evaluating quality; and a mathematical means of evaluating the information collected.

They interview producers, packers, processors, shippers, receivers, consumers, scientists and marketing specialists at experiment stations and universities, and others. Economic studies may be made to determine the attributes that are important to sellers and buyers, including the final consumers. Where possible, laboratory studies are made to find ways of measuring the physical differences in quality.

Extensive data are collected on all quality factors and on defects that occur in the product. For most commodities (except meat carcasses, which are graded individually), an allowance must be made within each grade for a certain percentage of individual units within a lot that do not meet the standards. This is done because of practical limitations in packing and grading. The speed necessary in handling perishable products makes it almost impossible to remove all defective units. The "tolerance" (number of defective units or types of defects allowed) is more restrictive, of course, in the higher grades than in the lower grades.

Studies are made in processing or packing plants, or wherever the products may be graded, to determine if the standards are practical to use. Statistical methods are used to help insure the validity of the testing procedures. For example, the capability of processing equipment to size a product within certain limits must be determined. Standards must be adjusted to processing methods—what is capable of being produced—within the limits of what the public is willing to pay for a product.

Standardization specialists then draw up proposed standards.

The proposed standards are published in the Federal Register as a Notice of Proposed Rule Making, and a specified time period is set to allow interested persons to study and comment on the proposal.

A press release is issued at the same time to notify industry members, consumer groups, trade organizations, State Departments of Agriculture, and anyone concerned. Copies of the proposed standards are sent to those who request them.

All comments are taken into account in considering whether the standards should be issued as proposed, with amendments, or withdrawn.

If it is decided to promulgate the standards, they are issued in final form in the Federal Register, with a specified date on which they are effective. A press release is again issued.

A revision of grade standards follows the same process. Revisions are often based on changes in marketing practices or improvements in production or processing methods that bring about improvements in the quality of a product. With the recent increase in use of pink- and red-fleshed varieties of grapefruit to make frozen concentrated grapefruit juice, for example, the grade standards for this product were revised to provide for grading of pink juice.

Plant sanitation

Official grading of meat and poultry is done only in plants under Federal or State continuous inspection for wholesomeness. The Food and Drug Administration makes sample checks from time to time on the wholesomeness of other food products. USDA, however, has its own sanitation requirements for certain types of plants and grading of certain products. Official grading of a manufactured dairy product is done only after a plant has been surveyed by USDA dairy inspectors and the

quality of raw material, sanitation, condition of the plant and equipment, and processing procedures have been approved. In egg packing plants, the official inspector is responsible for checking the sanitation of the plant, seeing that the eggs are washed properly and held under proper conditions, and checking all packing equipment and procedures. In fruit and vegetable processing plants using the USDA continuous inspection program, the USDA inspector checks the plant sanitation, the raw material used, and sees that the product is properly handled through all processing.

Applying the standards

The standards must be prepared in terms that can be easily understood and uniformly applied, because much grading is subjective. Standardization specialists prescribe specific physical and chemical tests for certain products and prepare handbooks for official graders and inspectors to use in interpreting the standards. They also prepare models, color slides and photographs, and such other materials as will aid in uniform interpretation of the grade standards. Training of graders and inspectors is also an important part of maintaining uniformity.

The method of officially inspecting or grading a product depends on the nature of the product, the degree of quality variation in the product, how it is processed or packed, and the techniques available to objectively measure quality factors. For poultry, eggs, and fresh and processed fruits and vegetables, the official graders or inspectors certify the grade of a quantity or lot of the product by inspecting or "check-grading" a representative sample of the lot, usually after it has been sorted into grades by plant workers. Meat carcasses are individually graded by the USDA grader.

Sampling plans are developed to assure the sample adequately represents the lot being graded, whether inspection is done during processing of the product, at a terminal market or warehouse, or elsewhere. USDA statisticians, working with standardization specialists, have developed sampling plans based on acceptable quality level (AQL) and sampling risk or error.

AQL refers to the maximum number of defects or defective units acceptable per hundred units. AQL's can be written into the standards themselves—as the “tolerance” for defective units or defects allowed within a grade. When AQL's are used, the grading technique involves counting the number and type of defects or defective units in a sample, rather than computing percentages.

Techniques of inspecting and grading

Meat. Meat carcasses are graded individually and the official grade stamp is applied to each carcass. For quality determination, graders examine carcasses visually, and no objective measurements are used. Pictures showing degrees of marbling of beef are provided as aids in determining quality. Since 1965, USDA has required that carcasses be partially separated into hindquarters and forequarters so that the grader can see a section of the rib eye muscle, an important factor in determining grade.

For determining yield grades of beef carcasses, graders may use a clear plastic grid to measure the area of the rib-eye and a ruler to measure thickness of fat. In normal grading practice, these factors are estimated. A mathematical aid, the Yield Grade Finder, which operates somewhat like a slide rule, is used to put together the yield factors to obtain the yield grade. A similar device is available for determining yield grades of lamb.

Poultry. Chickens, turkeys, other poultry, and poultry parts are sorted into grades individually by plant workers and then check-graded by official graders. Official grading is based on AQL's and specified sample sizes. Grading is visual.

Raw, ready-to-cook poultry rolls, roasts, bars, or logs have been graded since 1965. The grader examines the whole birds from which the roasts are made and checks during processing for removal of blood vessels, bone chips, and the like.

Eggs. Eggs are graded by plant workers, and the official grader spot checks the eggs as they are being packed and after packing. Mass scanning techniques now available have eliminated the older method of hand-candling eggs to check for interior quality—depth of air cell, condition of albumen and yolk, and presence of blood spots. In mass scanning, large numbers of eggs are moved across a lighted area at the same time, and plant workers remove undergrades. The eggs are automatically sized. Color charts, showing candled appearance of eggs, broken-out appearance of eggs, and types of shell condition and cleanliness, are available for graders as visual aids.

Butter and Cheddar cheese. Both products are graded by official graders after manufacture. The grader takes samples of each batch or segment of a continuous production run and examines them for flavor, uniformity of color, body, and texture. Color guides are available to check the color of butter.

Instant nonfat dry milk. The official grader takes a sample of the product after manufacture and certifies its quality. He checks for lumps, color uniformity, and specks in the powdered milk, and flavor and odor of the reconstituted milk. A number of laboratory tests are performed: analyses for dispersibility, by the modified Moates-Dabbah method; determination of moisture content by the toluol or vacuum oven method; determination of

fat, solubility index, titratable acidity, and scorched particles; bacterial estimates by standard plate count and direct microscopic clump count.

Fresh fruits and vegetables. Fresh fruits and vegetables are sorted into grades by plant workers during packing. Federal or Federal-State inspectors certify the quality of products on a sample basis. Most inspection is visual. Internal as well as external quality of many products is examined. Models, color guides, and color photographs are available for inspectors to check samples for shape, degree of coloring, and degree of defects or damage. AQL's are part of the standards for some citrus products.

As increasing amounts of fruits and vegetables move into processing channels, new methods are developed to inspect the raw product before processing. Mechanically harvested grapes, for example, are inspected on the vine before harvest, to determine sugar content and grade. Special sampling plans were developed for vineyard inspection. Two methods of automatically sampling tomatoes harvested into bulk bins have been developed.

Refractometers are used to determine sugar content of both grapes and citrus products before processing. Potatoes to be used for french frying and chipping are tested for amount of bruising, fry color, or chipping quality. Specific gravity tests are made of potatoes for processing to determine yield.

Mechanical equipment to aid in sampling and inspecting peanuts is highly developed; it includes pneumatic samplers, an automatic sheller, and a machine that splits kernels. Peanuts are also examined microscopically for possible aflatoxin contamination before they are allowed to move into food channels.

Processed fruits and vegetables. These products are sorted into grades by plant workers during processing, and checked by USDA inspec-

tors on a sample basis. Grading is generally based on a scoring system of four quality factors: color, uniformity of size, absence of defects, and character (tenderness, texture, and maturity). Flavor is also quality rated.

Chemical and physical tests are performed wherever possible. Subjective measurements are also used. Acid and sweetness measurements are made of citrus juices and other fruit products; specific gravity tests are made to determine maturity of peas. Gas chromatography is used to test for aflatoxin in peanut butter.

Special equipment has been developed to measure flowing quality of such products as catsup and consistency of applesauce. Sizing devices, color guides, and models are available to inspectors.

AQL's are part of the standards for some products.

Rice, dry beans, and peas. The official inspector grades rice on the basis of a sample he has taken. The amount of broken kernels is determined by sieving. Type samples showing the degree of milling of rice and type samples for certain defects, such as heat damage, are provided for the inspector to aid him in grading.

Dry beans, peas, and like products are also inspected on the basis of a sample taken by the inspector. Inspection is mainly visual, except that electric moisture meters are used to determine moisture content of dry beans and peas, as well as rice.

Quality control

The grade standards are often used by packers and processors as a basis for quality control. When official grading and inspection is done in a plant, the inspector aids in quality control because he can advise plant management, during

processing and packing, when the product is not meeting the standards. Quality control charts are a part of some of the grade standards in which AQL's are used. With these standards, the inspector keeps a running chart of quality during processing, and management can begin to rework the product or take corrective measures immediately when the product falls below the quality they wish to meet.

Quality control in meat production goes back to production of the live animal. Standards for feeder and slaughter animals are designed to be correlated with the carcass standards. Thus, a Choice feeder steer has the potential to develop into a Choice grade slaughter steer, which, in turn, can be expected to produce a U.S. Choice beef carcass.

How to obtain copies of grade standards

Individual copies of USDA grade standards are available as follows:

Beef, veal and calf, lamb and mutton—Livestock Division

Poultry and eggs—Poultry Division

Butter and other manufactured dairy products—Dairy Division

Fresh and processed fruits and vegetables—Fruit and Vegetable Division

Address requests to the appropriate Division, Agricultural Marketing Service, USDA, Washington, D.C. 20250.

Rice, dry beans, and peas—Grain Division, Agricultural Marketing Service, USDA, 6525 Belcrest Road, Hyattsville, Md. 20782.

Copies of all USDA grade standards for food are printed in three volumes of the Code of Federal Regulations. These volumes, which are revised annually, are available at local libraries or they

may be purchased from the Government Printing Office, Washington, D.C. 20402. Volumes containing the grade standards, and the GPO prices, are:

7 CFR, Parts 46 to 51	\$1.75
(fresh fruits and vegetables)	
7 CFR, Part 52	3.00
(processed fruits and vegetables)	
7 CFR, Parts 53 to 209	3.00
(rice, dry beans and peas, livestock, poultry, and dairy products)	

Other Federal food standards

Voluntary standards. The U.S. Department of Commerce's National Marine and Fisheries Service, under authority of the Agricultural Marketing Act, provides grade standards and voluntary grading services for fishery products similar to those provided by USDA for other foods. U.S. grade standards have been developed for frozen processed fishery products, covering such products as semi-processed raw whole fish, fish blocks, cut fish portions, steaks and fillets, breaded raw and precooked fish portions and sticks; raw headless and breaded shrimp; raw and fried scallops. Such products when produced and graded under the U.S. Department of Commerce inspection program may carry the USDC "Federally Inspected" mark and/or the U.S. grade shield. However, as under the USDA grading programs, grade labeling is not required by Federal law, even though products are officially inspected and graded.

Regulatory standards. Regulatory standards set requirements which products must meet to be legally manufactured, shipped, or sold. USDA, the Food and Drug Administration, and the Public Health Service have responsibility for various regulatory standards.

USDA standards of composition and identity. Under the Federal Meat Inspection Act and the

Poultry Products Inspection Act, USDA establishes minimum content requirements for Federally inspected meat and poultry products (usually canned or frozen).

To be labeled with a particular name—such as “Beef Stew”—a Federally inspected meat or poultry product must meet specified content requirements. These requirements assure the consumer that he’s getting what the label says he’s getting. They do not, however, keep different companies from making distinctive recipes. For example, the USDA minimum content requirement for beef stew specifies the minimum percentage of *beef only* (25 percent) that the stew must contain. It doesn’t keep the manufacturer from using combinations of seasonings or increasing the amount of beef to make his product unique.

USDA has also established complete standards of identity for these products: chopped ham, corned beef hash, and oleomargarine. They go further than the composition standards, setting specific and optional ingredients.

FDA standards. The Federal Food, Drug, and Cosmetic Act provides for three kinds of regulatory standards for products being shipped across State lines: standards of identity, standards of minimum quality, and standards of fill of container. All these standards are administered by the Food and Drug Administration of the U.S. Department of Health, Education, and Welfare. The law sets forth penalties for noncompliance.

FDA standards of identity (like USDA’s) establish what a given food product *is*—for example, what a food must be to be labeled “preserves.” Standards of identity have eliminated from the market such things as “raspberry spread”—made from a little fruit and a lot of water, pectin, sugar, artificial coloring and flavoring, and a few grass seeds to suggest a fruit product.

The FDA standards of identity may provide for use of optional ingredients in addition to the

mandatory ingredients that make the product what it is. When optional ingredients are added, they must be listed on the label.

FDA has standards of identity for a large number of food products (excluding meat and poultry products, which are covered by USDA).

Types of products for which standards of identity have been formulated by FDA include: cacao products; cereal flour and related products; macaroni and noodle products; bakery products; milk and cream products; cheese and cheese products; frozen desserts; food flavoring; dressings for food; canned fruits and fruit juices; fruit butters, jellies, preserves, and related products; non-alcoholic beverages; canned and frozen shellfish; eggs and egg products; oleomargarine and margarine; nut products; canned vegetables; and tomato products.

FDA standards of quality have been set for a number of canned fruits and vegetables to supplement standards of identity. These are minimum standards for such factors as tenderness, color, and freedom from defects. They are regulatory, as opposed to USDA grade standards of quality, which are for voluntary use.

If a food does not meet the FDA quality standards it must be labeled "Below Standard in Quality; Good Food—Not High Grade." Or words may be substituted for the second part of that statement to show in what respect the product is substandard. The label could read, "Below Standard in Quality; Excessively Broken" or "Below Standard in Quality; Excessive Peel." The consumer seldom if ever sees a product with a substandard label.

When USDA grade standards are developed for a product for which FDA has a minimum standard of quality, the requirements for the lowest grade level USDA sets are at least as high as the FDA minimum. USDA grades for canned tomatoes, for example, are U.S. Grades A, B, and C. U.S. Grade

C is comparable to FDA's minimum standard of quality.

FDA standards of fill of container tell the packer how full a container must be to avoid deception. They prevent the selling of air or water in place of food.

Public Health Service food standards. Under the Public Health Service Act, the Public Health Service formulated food standards to help fight infectious diseases.²

The most familiar PHS standard is for "Grade A" milk. In contrast to USDA quality grade standards for food, the PHS standard for "Grade A" milk is largely a standard of wholesomeness.

To promote uniform and effective controls, PHS developed a Milk Ordinance, recommended for adoption by States and local municipalities, which now serves as the basis of Grade A milk sanitation laws in many States and cities. The "Grade A" designation on fresh milk means that it has met the State or local requirements, which usually are modeled after the provisions of the PHS ordinance.

² PHS food standards are now administered by the Food and Drug Administration.

